

Appl. No. 10/810,977
Amdt. dated December 11, 2006
Reply to Office Action of August 9, 2006

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REMARKS/ARGUMENTS

Applicants' attorney thanks the Examiner for her comments and thoughtful analysis of the present application. Claims 22-36 are presented for the Examiner's consideration. Claims 1-21 and claims 37-39 have been canceled.

Pursuant to 37 C.F.R. § 1.111, reconsideration of the present application in view of the foregoing amendments and the following remarks is respectfully requested.

By way of the Office Action mailed August 9, 2006, the Examiner included a Summary of the interview held between the Examiner and Applicants on July 20, 2006. Applicants respectfully note one correction to the Summary. In particular, the word "hydrophobic" in line 8 should read "hydrophilic" such that it states "...which applicant suggests results in a hydrophilic superabsorbent as opposed to the present invention." Applicants again express their appreciation for the Examiner's time and willingness to discuss the present invention.

By way of the Office Action mailed August 9, 2006, the Examiner rejected claims 22-26, 27, 29-32, 34 and 35 under 35 U.S.C. § 103(a) as allegedly being obvious to one of ordinary skill in the art at the time the invention was made, and thus unpatentable over U.S. Patent No. 3,989,596 to Bashaw et al. ("Bashaw") in view of U.S. Patent No. 5,494,611 to Howe. This rejection is respectfully traversed to the extent that it may apply to the presently presented claims.

Applicants have previously provided arguments to this rejection, including arguments that the requirements of MPEP § 2142 have not been met, and thus the burden remains on the Examiner with regard to obviousness. (See e.g., Applicants' Response dated July 21, 2006). Applicants maintain this position. In addition, the differences between Bashaw and the present invention have been thoroughly discussed in Applicants' previous Responses, as well as in the Examiner Interview held July 20, 2006. However, in addition to those discussions, and in an effort to progress

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prosecution, Applicants herewith provide data to further illustrate, in a side-by-side comparison, that the superabsorbent material of the present invention is not the same as a superabsorbent polymer based on Bashaw. The results of this data are submitted herewith by affidavit and can be seen as Attachment 1. Example A, based on Bashaw, represents a powdered maleic anhydride-isobutylene copolymer which has been coated with an aqueous 2 wt% (98 wt% water) solution of lauryl dimethylamine oxide surfactant. The example was neutralized with ammonium hydroxide, dried in an oven at 270 °F, and then tested for floating time and for the reduction in surface tension that occurs when the polymer is placed into 0.9% NaCl saline. It is noted that, in accordance with the present disclosure, a floating time of less than 30 seconds equates to the polymer being hydrophilic (or wettable), and a reduction in surface tension of less than 30% equates to a surfactant that is considered permanently attached to the polymer. (See e.g., the present disclosure page 12 lines 6-8).

Example A, based on Bashaw, resulted in a floating time of 10.3 seconds, a surface tension of 37.8 dynes/cm, and a reduction in saline surface tension of 47.5%*. Thus, the example based on Bashaw et al. results in a polymer that is hydrophilic (i.e., a floating time of less than 30%) and has a surfactant coating that is fugitive rather than permanent (i.e., the reduction in surface tension is greater than 30%).

In contrast, as seen in Table I of the present disclosure, the superabsorbent material of the present invention is: 1) hydrophobic without the surfactant (i.e., a floating time of greater than 60 seconds, as exhibited by Example 7); 2) hydrophilic when coated with a surfactant solution which includes an amount of water that is sufficient to activate the hydrophobic surface of the superabsorbent material to promote reaction between the at least one reactive functional group and the hydrophobic surface of the superabsorbent material, but less than sufficient to cause significant swelling of the superabsorbent material (i.e., a floating time of 26.1 seconds, as exhibited by

* The surface tension of 0.9% NaCl saline is 72 dynes/cm. (See e.g., the present disclosure page 12 line 8). After the surfactant-coated polymer of Example A, based on Bashaw, was added to the saline, and the fugitive surfactant released from the polymer, the surface tension of the 0.9% NaCl saline was reduced to 37.8 dynes/cm. This is equivalent to a 47.5% reduction in surface tension of the saline. In accordance with the present disclosure, a surfactant coating which results in a reduction in saline surface tension greater than 30% is considered to be non-permanent.

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Example 9); and 3) the previously hydrophobic polymer is now permanently wettable by virtue of the surfactant being permanently attached (i.e., the reduction in surface tension is 10.3%, as exhibited by comparing Example 7 and Example 9 in Table 1 of the present disclosure). Applicants note that a surfactant having between 95% water and 99.998% water, as taught in Bashaw, does not result in a permanently attached surfactant. (i.e., The surfactant of Bashaw is not a surfactant solution which includes only an amount of water that is sufficient to activate the hydrophobic surface of the superabsorbent material to promote reaction between the at least one reactive functional group and the hydrophobic surface of the superabsorbent material, *but less than sufficient* to cause significant swelling of the superabsorbent material, as required by Applicants' claims. To accomplish this, the surfactant solution of the present disclosure includes an organic solvent, such as alcohol, and only a small amount of water. In contrast, Bashaw teaches that a superabsorbent material, surfactant and pulp are mixed together in a large amount of water and then the resulting dispersion is dried at a high temperature. No organic solvent is used in the mixing step. Therefore, the superabsorbent material of Bashaw will swell to its full capacity.)

As discussed previously, Bashaw's purpose for utilizing a surfactant solution having between 95% water and 99.998% water is not to make the superabsorbent polymer wettable (since it is already wettable prior to adding surfactant), but rather to disperse the superabsorbent polymer in a pulp fiber slurry. (See e.g., Bashaw column 2 lines 6-16.) Thus, it would not be obvious, and one of ordinary skill in the art would not be motivated, to utilize the teachings of Bashaw to arrive at the present invention. The additional teachings of Howe do not overcome the deficiencies of Bashaw. For at least these reasons, Applicants respectfully request that this rejection of claims 22-26, 27, 29-32, 34 and 35 under 35 U.S.C. § 103(a) be withdrawn.

By way of the Office Action mailed August 9, 2006, the Examiner rejected claims 28, 33, 36 and 39 under 35 U.S.C. § 103 as allegedly being obvious to one of ordinary skill in the art at the time the invention was made and thus unpatentable over U.S. Patent Number 3,989,586 to Bashaw et al. ("Bashaw") in view of U.S. Patent Number 5,494,611 to Howe and in further view of U.S. Patent Number 6,217,890 to Paul et al. ("Paul"). This rejection is respectfully traversed to the extent that it may apply to the presently presented claims.

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As stated previously, claim 39 has been canceled.

Bashaw and Howe have been discussed in the previous section above. Paul is directed to disposable absorbent articles that maintain or improve the wearer's skin health. (See e.g., Paul column 2 lines 51-54.) This is accomplished by the articles having a high air exchange rate when wet, maintaining skin temperature when wet, having reduced levels of skin hydration and the use of lotions to treat skin. (See e.g., Paul column 2 lines 54-58.) Paul discusses the use of high absorbency material in the article; however, Paul does not teach or disclose the superabsorbent material of Applicants' invention. Thus, as discussed above in the previous section, and in Applicants' previous Responses, the addition of Paul in combination with Bashaw and Howe does not overcome the deficiencies to arrive at Applicants' invention. Applicants respectfully request that the rejection of claims 28, 33, 36 and 39 under 35 U.S.C. § 103 be withdrawn.

For the reasons stated above, it is respectfully submitted that all of the presently presented claims are in form for allowance. Applicants intend to be fully responsive to the outstanding Office Action. If the Examiner detects any issue which the Examiner believes Applicants have not addressed in this response, Applicants' undersigned attorney requests a telephone interview with the Examiner.

Applicants sincerely believe that this Patent Application is now in condition for allowance and, thus, respectfully request early allowance.

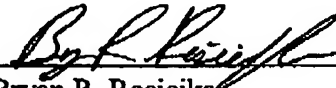
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The undersigned may be reached at: (920) 721-4405.

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Respectfully submitted,

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CERTIFICATE OF TRANSMISSION

I, Judith M. Anderson, hereby certify that on December 11, 2006 this document is being facsimile transmitted to the United States Patent and Trademark Office, Fax No. (571) 273-8300

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